

WHAT IS CLAIMED IS:

1. A tuner for use in a cable modem, comprising:
 - a reception processing section for receiving a signal transmitted from a communication line; and
 - a return path circuit for transmitting to the communication line a signal transmitted from a signal processing section,

the cable modem including the tuner for transmitting and receiving an analog signal to and from the communication line and the signal processing section for performing modulation and demodulation with respect to a signal transmitted and received by the tuner,

the return path circuit including a return path amplification circuit for performing power amplification of a signal transmitted from the signal processing section.
2. The tuner according to claim 1, wherein the return path circuit is provided with a filter for removing noise included in a signal transmitted from the signal processing section.
3. The tuner according to claim 1, wherein power to the return path amplification circuit and power to components other than the return path amplification circuit in the tuner are supplied by separate routes.

4. The tuner according to claim 1, wherein circuits constituting the reception processing section and the return path circuit are provided on one surface of a board.

5. The tuner according to claim 1, wherein the return path circuit includes a balanced-to-unbalanced conversion transformer for converting a balanced output from the return path amplification circuit to an unbalanced output and a matching inductor which is provided on an output side of the balanced-to-unbalanced conversion transformer.

6. The tuner according to claim 1, wherein the return path circuit is surrounded by a partition member having electrical and electromagnetic shielding effect.

7. The tuner according to claim 1, wherein the reception processing section includes a PLL circuit used in performing frequency conversion and a DC-DC converter as a regulator for supplying power to the PLL circuit, and

the DC-DC converter is surrounded by a partition member having electrical and electromagnetic shielding effect.

8. The tuner according to claim 1, wherein the reception processing section performs reception processing in accordance with a single conversion system for converting a frequency of a received signal into an intermediate frequency, and includes an intermediate frequency AGC amplification circuit for amplifying an intermediate frequency signal in accordance with an IF AGC signal transmitted from the signal processing section.

9. A cable modem comprising:

a tuner for transmitting and receiving an analog signal to and from a communication line; and

a signal processing section for performing modulation and demodulation of transmitted and received signals to and from the tuner,

the tuner including:

a reception processing section for receiving a signal transmitted from the communication line; and

a return path circuit for transmitting to the communication line a signal transmitted from the signal processing section,

the return path circuit including a return path amplification circuit for performing power amplification of

a signal transmitted from the signal processing section.

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